Sidebands

The Newsletter of the EAST GREENBUSH AMATEUR RADIO ASSOCIATION

www.egara.club

March 2018

President - Tom Scorsone, KC2FCP
Vice-President - Ridge Macdonald, KB2HWL
Secretary - Steve VanSickle, WB2HPR
Treasurer, Webmaster & Newsletter Editor - Bryan Jackson, W2RBJ

New ARRL ENY Chief Outlines Future Plans

ARRL's new Eastern New York Section manager has some big plans when he officially assumes his new role in May, and he took time to outline them for members of EGARA at their February Meeting.

John Fritze, K2QY

John Fritze, K2QY, began his hour-long presentation by explaining the duties of his job -- which are many. They include emergency communications, message traffic relay, technical activity/ and problem solving, volunteer monitoring, government relations, public relations, information services for amateurs, and cooperation with affiliated clubs -- of which there are 34 in his territory alone. And that doesn't even include his regular day job.

"A big part of my job is to have an active support staff and I have already begun appointing people to help me get things done," Fritze said. "Having an active staff is critical -- it can make or break a section." He said he expects to fill additional positions soon, including a district PR manager, a state government liaison, and youth coordinator.

"The average age of amateurs in the U.S. is 71," he noted. "We need to get younger people involved or the hobby will fade away."

Fritze also said he will step up the level of communications between himself and amateurs in the Eastern New York district, including regular visits to clubs in the region, Hamfests, Twitter and updates provided through the website he has created at ENY.ARRL.ORG. (continued on page 2)

Got Noise in Your Shack? Get "Looped" at the March Meeting

Almost nothing is more aggravating than unwanted RF noise coming into your shack while you're trying to copy a distant station -- or even a local one if it's bad enough. And the second most aggravating thing can be trying track down where the noise is coming from. Luckily, a simple tool may help -- a loop antenna.

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During the March membership meeting, Steve VanSickle, WB2HPR, is slated to demonstrate how to construct a loop antenna and then use its directional properties to help determine where sources of RF noise are coming from.

"The key is the sharp nulls that are characteristic of vertically polarized loop antennas," said Steve. "They can be very useful for determining the direction of the noise source since most consumer RFI seems to be vertically polarized."

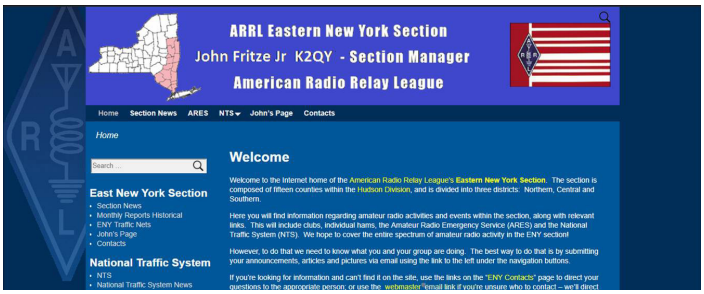
Common sources of RFI include grow lights, electronic light ballasts, halogen lights, consumer electronics and power lines. Steve's demonstration will give insight into how to track down and eliminate such annoyances in your shack.

Save the Date! Next Membership Meeting - March 14, 2018 at 7 pm

New ENY ARRL Manager Outlines Plans

He said additional information he plans to add to the website include a list of Amateur Radio clubs in the district with contact info, a list of repeaters in the region, a listing of newly licensed amateur operators, monthly news taken from excerpts of club's newsletters, award certificate recipients, and a list of Elmer volunteers and their contact info so that hams in the region can get assistance when they need it.

"I have also set up a Facebook page @JohnFritzeK2QY which is open for anyone to post on it."



The new ENY Section website.

Fritze said he also plans to step up ARRL's presence at area Hamfests. "Whenever possible, I plan to set up a booth promoting the league and membership during my visits to ARRL recognized events."

Another area that will be receiving more attention will be training for amateurs, especially with regard to emergency communications. This training will include a series of workbooks to educate Hams about common procedures so that during emergencies everyone is "on the same page". The training will range from simple activities like how to program an VHF/UHF handheld radio, to more complex lessons like NVIS or WinLink/Pactor. Each activity will be signed off by a qualified evaluator.

Information and procedures are also being developed to help club's plan for public service events that they participate in. It will include checklists that club's can follow step-by-step to ensure they are well prepared to staff events and assist event organizers with their own planning.

EGARA members were brought up-to-date on ENY District activities during the February meeting

Fritze said he also hopes to establish programs to attract more young people into amateur radio. This will begin with the appointment of a Youth Coordinator and then the development of programs that bridge Amateur Radio to today's emphasis on "STEM" -- Science, Technology, Engineering and Math. He noted that Amateur Radio embraces all of these areas and is a perfect way for young people to expand their knowledge by getting involved with a hobby that provides both education with a fun, hands-on experience. Plus, he noted it's not limited to just technical learning, as Amateur Radio offers the potential to communicate world-wide, providing involvement in geography, languages, social skills and building new friendships.

"My priorities are to serve in this job with service, integrity and excellence," Fritze said as he concluded his presentation. "I look forward to with all of the hams in the district and being readily available to each of them. Securing the future of Amateur Radio demands no less."

How to Contact Your Division Manager

Amateurs in ARRL's Eastern New York District can contact John Fritze in any of the following ways:

- **E-Mail: k2qy@arrl.org**
- **Cell is 401-261-4996 / TEXT messages are always welcome (and preferred)**
- **Face Book page @JohnFritzeK2QY which is open for anyone to post on it;**
- **Follow on Twitter @K2QY**
- **Or write: John Fritze Jr., K2QY , 4 Normanskill Blvd., Delmar, NY 12054**

How Amateur Radio Played a Role in the Hawaii EAS Emergency Response
Ham flexibility allows for quick response to error

By Susan Ashworth

In the minutes after the false missile EAS alert was delivered in Hawaii, there was a great deal of general confusion — a lack of communication, general perplexity about the next steps, and phone call after phone call that didn't get through to the right recipients.

But one group in particular said it knew exactly what it felt it had to do. While an official retraction from emergency officials of the alert did not come until 38 minutes had elapsed, amateur radio operators were able to confirm within 13 minutes that the Hawaii EAS alert was false.

"The big thing is, when all else fails, we're able to provide emergency communications as required," said Mike Lisenco, a member of the board of directors for the Amateur Radio Relay League.

At a hearing on January 25th called by the Senate Commerce Committee, Lisenco discussed the role that amateur radio operators played in responding to the Hawaii EAS alert response. He noted that amateur radio, as a distributed form of communications infrastructure, is easily adapted to changing emergency conditions in disaster response situations.

And in this case amateur radio operators in Hawaii were well-prepared for the emergency event.

"Ironically, amateur radio members in Hawaii had just been drilling 20 hours before the actual false alarm, so everything was fresh on their minds," Lisenco said during the hearing.

Rumors and stories began to circulate through various VHF and UHF repeaters about the alarm as part of the Hawaii State Radio Amateur Civil Emergency Service. Amateur radio operators picked up a conversation from a Coast Guard vessel outside the area that was relaying news that the alert was false. The operators, taught to listen for a local siren that indicates a true emergency, realized that siren had not sounded.

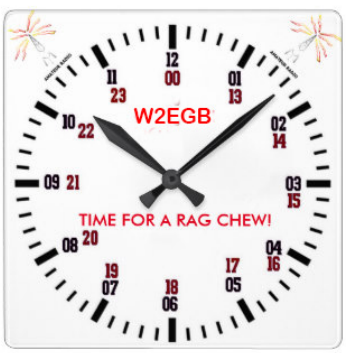
The result was that amateur radio networks were able to disseminate validated cancellation information long before the cellular networks via WEA were able to do so, Lisenco said.

"Because they were able to disseminate that information freely, they were able to get word out right way [that the alert was false]," Lisenco said.

At the hearing Senator Roger Wicker (R-MS) asked why amateur radios are considered valuable in a situation such as these.

"We're not dependent on the [same] infrastructure to operate," Lisenco said. "And because we understand how radio works, we're able to adapt quickly to many situations."

To Chew or Not to Chew? -- That is the Question



A ragchew is a great way to stay in touch and keep up to date with your fellow hams. With that in mind, we're asking EGARA members if they would be interesting in participating in a weekly ragchew -- either on 6 meters or on one of the club's VHF or UHF repeaters. We're looking for your ideas and input. But to get the conversation started, we're thinking of either a Saturday or Sunday evening ragchew, perhaps from 6 pm to 7 pm. It would not be a net controlled event, but rather a casual traditional ragchew.

Topics would be open to anything of interest to members -- a new project you're working on, technical questions or advice, upcoming events, or perhaps a piece of gear you picked up at a hamfest. So think it over and then email your thoughts to **W2RBJ@outlook.com**. We'll pull everyone's thoughts together and see what might work best.

EGARA Equipment Report: Timewave ANC-4 Antenna Noise Canceller

By Steve VanSickle, WB2HPR

I recently had the opportunity to test drive a Timewave ANC-4 Antenna Noise Canceller. My battle against noise had begun with months of effort tracking down defective street light ballasts. Since then, I have seen a significant improvement in noise reduction and I decided to continue my battle with extraneous and unidentified noise to make further improvements. My contact with Mike Lucas, WB2TTV led me on a path that resulted in acquiring a Timewave ANC-4. Mike has done exhaustive testing and measurement of the ANC-4 performance – so let me start by saying "Thanks", Mike!

The ANC-4 unit connects right to the antenna connector of the receiver or transceiver to cancel locally generated noise before it gets into the receiver and affects the receiver AGC circuits. It can handle up to 250 watts of transmit power through the unit.

To cancel locally generated interference, the ANC-4 detects the interfering signal and adjusts its phase and magnitude so that it matches the offending interference at the receiver input, but is 180 degrees out of phase, effectively cancelling the interference. This scheme is particularly effective at reducing local power line noise or other locally generated noise types. A second antenna connects to the ANC-4 to act as a noise pickup antenna. A short wire antenna or a short collapsible whip is generally satisfactory for eliminating noises generated around the operating position or in the house, but an external antenna usually works better to eliminate noises generated outside the home.

The Timewave ANC-4 - A small unit with big results

The manufacturer claims a noise improvement of up to 40 dB reduction. (See the manufacturer's web site at: http://www.timewave.com/support/ANC-4/anc4.html). There are also many YouTube videos showing the equipment in use. While I have not experienced such dramatic reductions in noise, I believe that this is because I had already resolved the issue of noise coming from the previously mentioned street light repairs. (I reported the street light problem to National Grid and it replaced the faulty fixture).

As expected, the amount of noise reduction is dependent on time of day, signal strength, frequency and RF propagation. My testing began with the supplied wire noise pickup antenna, which Timewave says will be most useful for noise interference reduction within the shack. However, I was able to observe a noticeable improvement in signal-to-noise ratio up to 1-2 "s" units or over 6dB (one "s" unit is equivalent to 6 dB change in signal level). Later, I rigged up a temporary connection using a 30 meter sloper dipole and the ANC-4 showed a marked improvement in noise reduction. Impressive, indeed!

The manufacturer supplies operating tips and information regarding the noise pickup antenna for the ANC-4 in the setup and operating instruction booklet.

So far, I am encouraged by the ANC-4 performance, and after further experimentation, I will update my findings. This type of equipment may have use in your shack, too. If you are plagued by a neighbor's plasma TV, grow light, aquarium heater or other external noise interference, the ANC-4 may be the solution to your receive noise problem - especially with the low sunspot numbers we are experiencing.

The ANC-4 carries a list price of $209.95 but can be found discounted at some leading ham supply outlets.

Stay tuned….make some noise…and get on the air! 73!

In Other News of Interest...

53 Years After Its Days as a British Pirate Station Radio Caroline is Getting Permanent Perch in MW AM Band

Radio Caroline, the latter-day incarnation of the famous shipboard pirate radio station that beamed rock music to the UK in the 1960s and 1970s, has obtained a license to operate permanently on 648 kHz at 1 kW ERP. A transmitter imported from Europe has been undergoing necessary modifications to suit the MW frequency, which falls between the 10-kHz-spaced AM Standard Broadcast Band frequencies in the US.

Radio Caroline during its heydays as a ship-based pirate radio station off the coast of England

"It's taken Radio Caroline 53 years to get an AM license, and it was perceived as a threat to the BBC for many years," Radio Caroline says on its website. "Ironically 648 kHz was best known for transmitting the BBC World Service in English." BBC dropped that service in 2011. "The basis of our application was that our traditional heartland was Essex and Suffolk, where the signal from our ships made first landfall, and that we wished to entertain on AM, an audience that we have not been able to serve in this way since 1990."

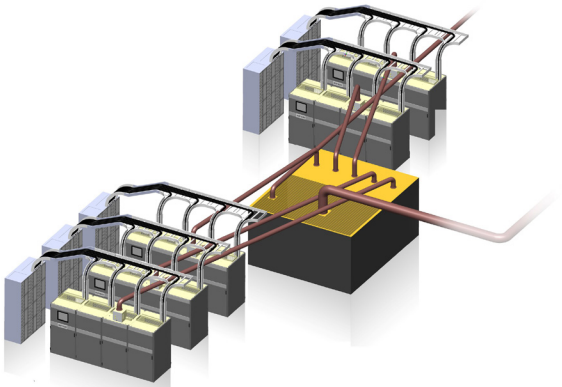
Telecoms regulator Ofcom granted a license to Radio Caroline last May and the station had hoped to be on the air this past summer. It is now looking at a fall start date, as getting the new facility up and running has been more difficult than anticipated.

"We know that people are as keen to see our new service commence, as are we," Radio Caroline's Peter Moore said. "There was a romantic notion that we 'might just' get on air by last August, and indeed, this was tried but it was not possible." After solving technical issues, Radio Caroline returned on December 22, 2017.

The station's name was originally taken in the 1960s as a tribute to President John F. Kennedy's daughter, Caroline.

With 2000KW Can You Hear Us Now?

Transmitter manufacturer Nautel has delivered two of the largest MW broadcast systems ever built, with a combined output of 2.5 million watts. The first went on the air in December at Antenna Hungaria's transmission facility near Solt, Hungary using five Nautel NX400 (400KW each) operating into a combiner to produce two million watts. The station broadcasts on 540Khz and can be heard throughout Europe. The solid state Nautel system replaced an aging custom-built tube transmitter that had been in operation since 1977.



Nautel's 2,000,000 watt system uses five 400,000 watt transmitters feeding into a combiner

Meanwhile, Christian broadcaster Trans World Radio Bonaire fired up its new Nautel 450 kW transmitter on January 30th.

The station, founded in 1964, broadcasts on 800 AM to listeners in Venezuela, Cuba, Colombia, Brazil and the Caribbean, as well as on 89.5 FM for people living on the island of Bonaire.

In the U.S. the largest transmitter ever regularly used was a custom built 500,000 watt rig built by RCA for WLW in Cincinnati. It was on the air from 1934 to 1939 operating on a series of temporary six-month authorizations. It was eventually silenced when competitors complained about interference and the government decided to cap maximum power of AM stations at 50,000 watts. However, the mammoth transmitter -- known as "RCA-1" -- was kept in operating condition throughout World War Two in case it was needed in an emergency as it could reach almost all of the nation.

EGARA January Meeting Minutes

- The February meeting of the EGARA was called to order at 7:20 PM by President Tom Scorsone, KC2FCP. The Treasurers report was presented by Treasurer Bryan Jackson and approved by the membership. Dues from ten members were accepted. Two members also renewed their ARRL memberships through EGARA;
- It was announced that a new griddle has been purchased for the upcoming hamfest;
- Raffle prizes were donated by John Fritze, K2QY – ARRL Section Manager. Included were: ARRL Handbook, calendars, and tools from Harbor Freight;
- Chris Linck, QSL manager showed the membership a card received from W1HMM for a contact made during Field Day 2017. Also, he informed members of a SK estate sale of equipment belonging to the family of Bert Bruins, EGARA co-founder;
- Section Manager John Fritze, K2QY gave a presentation about his new duties as our new Section Manager. A brief question and answer session followed John's remarks (story on page one);
- Refreshments were on hand for all in attendance. The meeting was adjourned at 9:30 PM.
- --de Steve VanSickle WB2HPR / Secretary

Thanks to These Members for Their Support!

EGARA gratefully acknowledges the following members for payment of their 2018 dues.

Andy Sullivan	**KC2WWJ**
Dave Williams	**N2VLQ**
Bryan Jackson	**W2RBJ**
Steve VanSickle	**WB2HPR**
Bob & Claudia Stark	**KA2EXK / KC2VWO**
Jack Mrozak	**K2CTH**
Joe Saulier	**KD2BSV**
Russ & Carl Greenman	**WB2LXC/ KC2UTC**
Dave Gillette	**KC2RPU**
Bill Leue	**K2WML**
Shelly Perry	**WB2DGE**
Joe Ostering	**N2CJF**
Dave Jaeger	**K2DEJ**
Tom Scorsone	**KC2FCP**
Peggy Donnelly	**KD2LMU**
Jim Pendolino	**KC2HRO**
Joseph Jeavons	**KD2DKR**
Tony Pazzola	**W2BEJ**
John Fitze	**K2QY**
Christopher Linck	**N2NEH**
Didier Paris	**F5MNH**
Jean-Claude Angebaud	**F1AKE**
Martyn Griffiths	**G6IVC**

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On the Beam
News & Notes

FCC Budget Proposal Cuts Spending and Staff

The FCC's 2018 budget features cuts in staff and budget according to the Trump administration's final budget proposal.

The FCC is asking for $322,035,000 in budget authority with the agency actually funding its own operations through collection of fees. That is a 5.2% cut from its current level, not including $16,866,992 it is getting one-time to move to a new headquarters. It also asked for $111,150,000 for to cover auction/repack-related expenses and future auction and spectrum-related activities, down 5%.

The FCC budget cuts 102 full-time employees, from 1,550 to 1,448, a 6.6% decrease. It also cut $4 million from "travel, rent, contract services, supplies and materials, and equipment." As has been the case in past budgets, the administration proposes a legislative change that would allow the FCC to impose a spectrum fee on regulated entities, including broadcasters, cable operators, and satellite operators. Spectrum fee authority has been a standard request from Democratic and Republican administrations alike that Congress has yet to grant. The administration/FCC also backs the Spectrum Pipeline Act of 2015, which requires 30 MHz of federal spectrum to be auctioned for non-federal use by 2024 and additional government spectrum by 2027, with proceeds expected to reach $6 billion. The broadcast industry is expected to lobby against the spectrum fee request.

FCC Boss Investigated By His Own Agency Over Corruption Allegations

Federal Communications Commission Chairman Ajit Pai is being investigated by the FCC Inspector General over allegations he improperly scrapped regulations to help Sinclair Broadcast Group buy rival TV station operator Tribune Media. The investigation was reportedly launched in December, and it is unclear when it will conclude.

Last April, Pai pushed through the first of several regulatory changes that allow TV broadcasters to increase the number of stations they own — Sinclair, already the nation's largest TV broadcaster, would own 223 stations reaching 72 percent of households if its $3.9 billion Tribune purchase goes through. Under rules in place since the 1970s, broadcasters were limited to 39 percent of markets. Pai called those rules outdated in the Internet age, but critics say the conservative Sinclair's vast expansion would limit the diversity of news in markets across the U.S.

Pai had met with Sinclair executives right before President Trump elevated him to chairman and corresponded with Sinclair officials several times afterward. Pai had refused requests from Democratic lawmakers to hand over his communications with Sinclair and the White House.

"For months I have been trying to get to the bottom of the allegations about Chairman Pai's relationship with Sinclair Broadcasting," Rep. Frank Pallone (D-N.J.) said. "I am grateful to the FCC's inspector general that he has decided to take up this important investigation." A spokesman for Pai has described the accusations as "baseless," pointing out that Pai has long favored deregulation and the FCC fined Sinclair for deceptive advertising in December.

Australian Hams Ask for More Power

The phrase "more power to the hams in Australia" isn't just a rallying cry or a way to drum up spirit. It's a real push that the Wireless Institute of Australia has taken on, asking the nation's regulator, the Australian Communications and Media Authority, to allow greater power levels for each of the three Amateur Radio license classes -- Foundation, Standard and Advanced.

The WIA is asking for the Foundation license to be granted 50-watt operation; the Standard license to be given 200 watts and they are seeking 1500 watts for the Advanced License. The WIA had conducted several surveys during the last yaer and based its recommendations on the responses from the amateur community.

The Foundation license is presently granted no more than 10 watts SSB, the Standard license, 100 watts on SSB and the Advanced License cannot exceed 400 watts on SSB.

The History of Ham Radio: The First Regulations

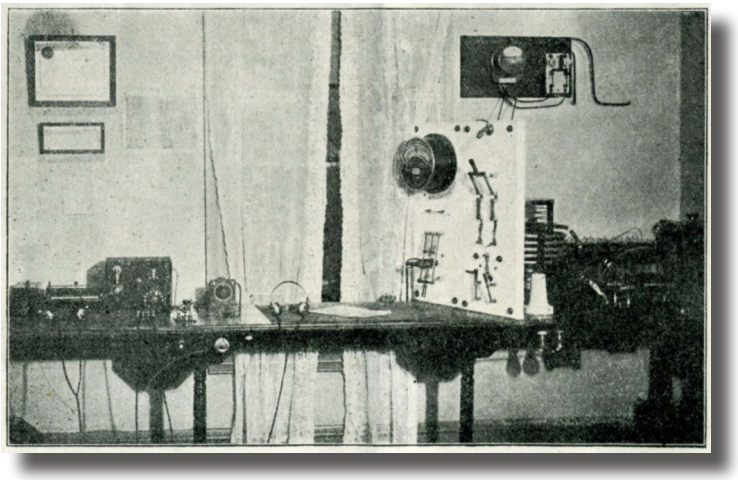
Chris Codella, W2PA, author, John Pelham, W1JA, editor, Phil Johnson, W2SQ, editor

(Editor's note: By special arrangement with the authors, Sidebands is pleased to present this multi-part series on the history of ham radio. Subsequent chapters will be published in future monthly editions of the newsletter)

The air began to fill with signals from military, commercial and amateur transmitters. By mid-1904 the Navy had established 20 coastal stations to make special broadcasts and communicate with 24 wireless-equipped ships. Perhaps a hundred or so high-power amateur stations were also operating in the US at this point.

Companies started to be established around 1908, many based on wild claims impossible to satisfy, which therefore fed public skepticism about radio. But as the business environment stabilized, companies consolidated and commercial stations were built—most notably by United Wireless, a conglomeration of the most successful systems of the time. By 1910, the firm was operating 70 stations communicating with 400 ships.1 This was commercial wireless telegraphy -- the broadcasting boom was still years away.

With increasingly more stations to hear, radio's popularity as a hobby exploded, producing more amateurs generating even more signals to hear. The demand for information about wireless outraced its availability. A lack of technical details in most published articles about radio left experimenters without a source of information useful for actually building receivers and transmitters. To fill the void some publications began to devote regular space to radio and new specialized journals emerged. Prominent among the new ones in 1908 was Modern Electrics, published in New York by businessman Hugo Gernsback, which grew to claim a circulation of 52,000 three years later.



A "neat" station layout – from February 1916 QST

Clubs played at least as big a role as magazines in expanding interest in radio. In New York, a group of boys with an average age of roughly 12 formed the Junior Wireless Club in January 1909 under the guidance of Fessenden; it was the first amateur radio organization. Two years later it was renamed the Radio Club of America. It would grow into one of the most significant technically-oriented clubs, attracting members deeply involved professionally in advancing the radio art, and inspiring the formation of many other such clubs around the country.

As a group, amateurs were the quickest to adopt and invent new wireless technologies, outpacing both the Navy and the commercial stations. In 1910 the number of amateur stations transmitting with high power transformers had grown to several thousand, with many more using small spark coils. Roughly twice again that number had set up receiving stations. Although not backed by any law, the Navy was issuing "certificates of skill in radio communication," mostly to amateurs, awarding 447 of them that year alone.

Since there was essentially no government regulation of radio at the time, no single group had the legal basis to claim priority over any other, and contention for use of the airwaves naturally ensued. There were simply too many stations attempting to use the same "air." First to widely use tuners, amateurs held a distinct advantage in dealing with the crowding and interference.

Outnumbered and falling behind in technology, the Navy and United Wireless sought to do something about the amateur radio problem through legislation. In the spring of 1910 two bills were introduced in congress that would outlaw amateur activity, not by explicit writ but by exclusion. They both provided for certain classes of government-registered stations and outlawed any interference—without mentioning amateurs at all. Interference to registered stations would simply be illegal. Although it passed in the Senate, opposition quickly arose from individual amateurs and clubs across the country, notably including the Junior Wireless Club, sending the proposal to defeat in the House of Representatives. Other bills emerged in the same vein including one in 1911 which was defeated by a similar opposition led by RCA.

Marconi chose to weigh in on behalf of the amateurs, not out of altruism but for sound business reasons. Amateurs had been the primary buyers of tuning equipment that Marconi manufactured, and the company also wanted to break the lock that United Wireless had on the US market and sell equipment to the Navy. (continued on page 9)

Ham Radio: The First Regulations

(continued from page 8)

In 1912, the Navy took a new approach, attempting to establish a legal framework governing all wireless operation. Thirteen bills were introduced in congress. Wireless operations at sea could reach a maximum wavelength in the neighborhood of 600 meters limited mainly by the size of ships, which restricted how long an antenna could be. Interference in the range approximately 400 to 600 meters was therefore to be eliminated by the proposed law. Since wavelengths shorter than about 250 meters were considered mostly useless, the amateurs would be relegated to 200 meters or shorter, using a primary power not to exceed 1,000 watts. The final adjustment to the combined bill that emerged was to remove a requirement that even receiving stations must be licensed.

This time neither technological superiority nor sheer numbers could prevail against organized bureaucracy and the bill was signed into law by President Taft on 17 May 1912. Nineteen regulations governed the operation of radio stations in the US, any of which could be waived if no interference resulted. The Department of Commerce would administer the new law including licensing and enforcement.

The first few regulations dealt with matters common to all wireless operation, such as signal quality, time sharing, priority of certain services and distress calls. You had to get down to regulation fifteen to find the first one specifically aimed at amateurs:

"No private or commercial station not engaged in the transaction of bona fide commercial business by radio communication or in experimentation in connection with the development and manufacture of radio apparatus for commercial purposes shall use a transmitting wave length exceeding two hundred meters, or a transformer input exceeding one kilowatt, except by special authority of the Secretary of Commerce and Labor contained in the license of that station…"

The sixteenth regulation further restricted power to one-half kilowatt if the station was within five nautical miles of a naval or other military station. Finally, the nineteenth regulation explicitly set forth strict privacy requirements:

"No person or persons engaged in or having knowledge of the operation of any station or stations, shall divulge or publish the contents of any messages transmitted or received by such station, except to the person or persons to whom the same may be directed, or their authorized agent, or to another station employed to forward such message to its destination, unless legally required so to do by the court of competent jurisdiction or other competent authority."

Although it left no room for interpretation, this last regulation did not seem to apply to amateurs insofar as strictly amateur communications was involved. The general introduction to the Amateur section of the regulations read:

"The Department recognizes that radio communication offers a wholesome form of instructive recreation for amateurs. At the same time, its use for this purpose must observe strictly the rights of others to the uninterrupted use of apparatus for important public and commercial purposes. The Department will not knowingly issue a license to an amateur who does not recognize and will not obey this principle."

Second grade amateur operator licenses were granted simply upon application by anyone located where a test could not be arranged— so no testing was involved. A First Grade license required one to pass a written essay exam and demonstrate an ability to transmit and receive Continental Morse code. Although the regulations specified no speed requirement, proficiency at five words per minute was the generally applied standard.

While general amateur stations were restricted to 200 meters or lower and 1 kW or less, special amateur stations could be allowed to operate at longer wavelengths and higher power. The regulations stipulated that:

"Applications for this class from amateurs with less than two years experience in actual radio communication will not be approved. The application must state the experience and purpose of the applicant, the local conditions of radio communication, especially of maritime radio communication in the vicinity of the station, and a special license will be granted only if some substantial benefit to the art or to commerce apart from individual amusement seems probable."

In the first four months of 1913, 1,185 amateur licenses were issued, and by year's end that number had reached nearly 2,000. But many more amateurs simply did not opt to get licensed at all, finding it unnecessary if they were careful to not interfere with commercial and government stations. By the end of June 1914 there were more than 5,000 licensed amateurs, and it was estimated that twice that many amateur transmitters were in actual operation. With the government paying attention mostly to commercial stations, lack of enforcement resulted primarily from a lack of funding for it. Amateurs had narrowly escaped extinction but now found their operation limited under government restrictions for the first time, relegated to the worthless wavelengths near 200 meters by the 1912 law. Or so it seemed. **(Next installment: "Getting Organized")**

CALENDAR

March 10, 2018 - SARA Ham Swapfest - Cooperative Extension Building, 50 West High Street (Rt 67w), Ballston Spa. Doors open at 8 am. Free admission

March 14, 2018 - EGARA Monthly Membership Meeting

March 19, 2018 - Rip Van Winkle Amateur Radio Society, Annual Auction, 7pm, 2219 County Rt 27 Hudson, NY

May 12, 2018 - EGARA Hamfest 2018 - 8 am to 1 pm at the East Greenbush Fire Department.

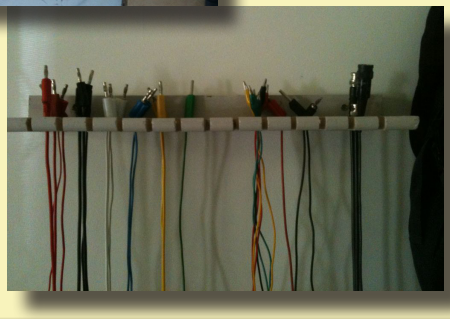
June 23-24, 2018 - Field Day, Masonic Temple; Setup on Friday, June 22nd @ 6 pm

Pro Tip: Manage Those Cables!

Do you find your workbench has a rat's nest of cables? Here's a simple solution to keep them organized and easy to access. All it takes is a couple of pieces of scrap wood and some simple tools.

First, decide how much room you have to mount your new cable organizer and cut a piece of wood to the correct dimensions. Then, use a jigsaw or router to cut a series of slots in which you can hang your cables, as shown in the picture. You can custom size the slots to accommodate the width of the various wires you want to store.

Finally, glue, screw or nail a second piece of wood to the back so you have an "L" configuration so it can be mounted above your bench. Now when you need a cable you'll have them neatly hung up and untangled!



For Sale

- **SPECO 2 channel scope**. Good for audio work. Power cord and New probe kit included. Very clean and in good working condition. $60.00
- **Decibel Products, DB-4072, UHF Duplexer**, with mounting brackets, A really low price. $145.00
- **Kenwood TKR-720 VHF Repeater**, 50 Watts, CTCSS, $349.00
- **50 W dummy load** with SO-239 connection. $7.00
- **CSI 12 frequency Selector Switch, CTCSS Generator**, BNC Connector $25.00
- **UHF RX Preamp** 3 output 1 input for multiple receivers $25.00
- **VIZ WV-98C Senior Voltohmyst**, Very Clean condition $49.00

For items above contact: John Maddalla, WB2HZT at radiowizzz@aol.com

- **Eldico R-104 RECEIVER**, 80-10M Receiver $ 300.00
- **Hammarlund HQ-170 RECEIVER**, 160 through 6 Meter receiver. Does not cover the newer WARC bands of 60, 30, 17, and 12 Meters. $ 225.00

For items above contact: Tom Scorsone by email at KC2FCP@nycap.rr.com

Looking to Buy, Sell or Swap?
Send your info to W2RBJ@outlook.com

The East Greenbush Amateur Radio Association

Organized in 1998, by Bert Bruins, N2FPJ, (Silent Key) and Chris Linck, N2NEH, the East Greenbush Amateur Radio Association, an ARRL affiliate, is committed to providing emergency services, educational programs, and operating resources to the amateur radio operators and residents of the Capital Region of New York State. The club station is W2EGB. The club also has several VHF and UHF repeaters open to club members and the public.